

ABSTRACT

In one aspect, the invention features an angle-measuring interferometry system that includes an interferometer which during operation directs a measurement beam to contact a measurement object, the interferometer comprising a beam steering assembly having a beam steering element positioned to contact and direct the measurement beam and an electronic positioning system to selectively orient the beam steering element within the interferometer. The angle-measuring interferometry system also includes an angle measurement system which during operation calculates a change in angular orientation of the measurement object based on a measurement signal derived from the measurement beam, wherein the measurement signal is derived from at least one interferometric signal produced by combining at least a portion of the measurement beam with a second beam after the measurement beam contacts the measurement object.